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Four Mats.

RAM SINGH DEL. MAYO SCHOOL OF ART LAHORE

Published under the patronage of the Government of India.

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THIS LIFE IS THE GREAT SCHOOLMAS[T]ER, AND EXPERIENCE THE MIGHTY VOLUME.

"It is only through woe that we are taught to reflect, and gather the Honey of Wisdom, not from flowers but THORNS."—*Lord Lytton.*

AT HOME—My Household God.
ABROAD—My Vade Mecum.

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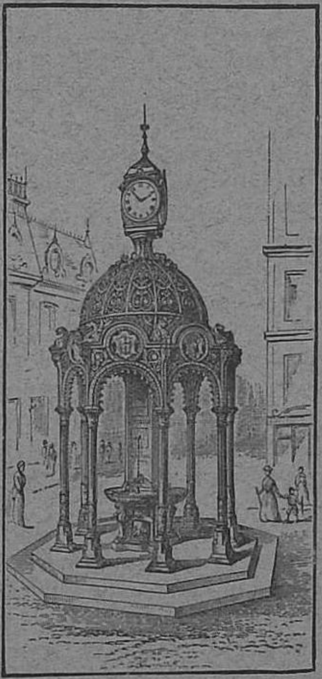
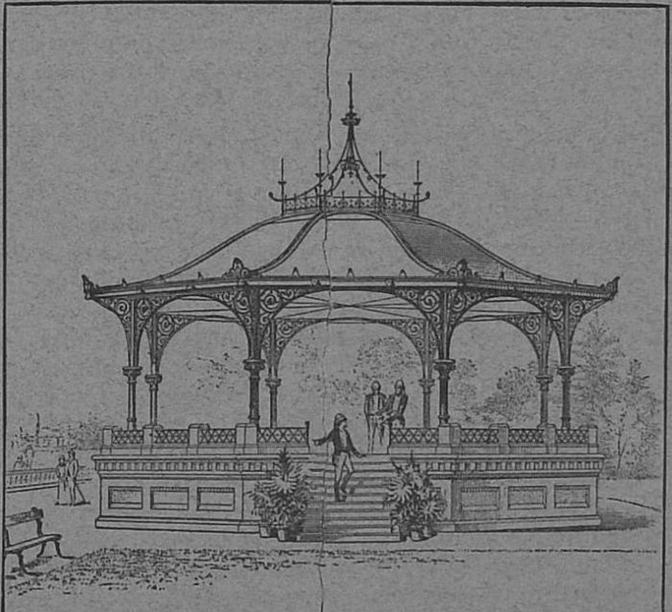
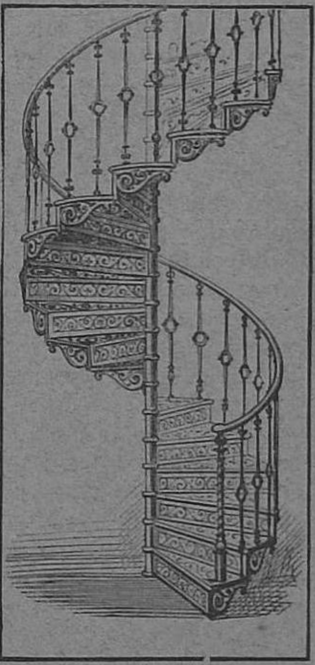




BANDSTAND ERECTED AT EDEN GARDENS, CALCUTTA



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The Journal of Indian Art.

THE INDUSTRIES OF MADRAS.

(EXTRACT).

By E. B. HAVELL, Superintendent, School of Arts, Madras.

Weaving.—Dealing with the weaving industry first, as it is by far the most important in respect of the numbers employed in it, I find that a great variety of textile manufacture is carried on in these districts—silk and cotton cloths, cotton and woollen carpets, silver and gold lace, satin, reed mats, coarse cotton cloths and cumblies. That this industry has suffered very considerably from the competition, daily growing stronger and stronger, of the cheap cotton and woollen goods which are being poured into the country, and that many weavers have been forced to abandon their trade for other pursuits, is already a well-known fact, and it will only be necessary to see to what extent it has affected each branch of the industry. The European goods have their great advantage in point of cheapness, and consequently the native manufacturer who supplies the wants of the low caste and poorer classes has suffered most.

White Cloths—for Male Wear.—Two kinds of white cloth for personal wear are produced by the native weaver: first, a plain white cloth with a narrow border of coloured cotton, and sometimes with a broader band woven across each end, which are worn by the low caste poor; and, secondly, superior cloths of fine texture in which the borders are broader and of silk, and generally embroidered with a simple pattern, and the bands at each end either of silk or of silver lace. These cloths, originally intended for Brahmins only, are now indiscriminately worn by the wealthier classes of every caste. The first of these has been almost entirely superseded for general wear by English long cloth, which is cheaper than the native cloth by about one half. Still the manufacture is carried on throughout the districts on a very small scale, for the native cloth is always worn, by those who can afford it, on occasions of ceremony, and by some it is preferred on account of its superior durability and thicker texture. The manufacture of the finer cloths still occupies a very large proportion of the weavers, and is extensively carried on in and around about Madura and Salem. The prosperity of this industry has also been affected to a less extent by the cheapness of European goods, in a similar way, that whereas a well-to-do native would formerly have four or six country cloths in constant wear, many now reserve the more expensive costume for the religious and domestic ceremonies at which a Hindu would expose himself to ridicule if he appeared in other than his traditional dress. But as these cloths are only within the reach of the wealthier classes, it is probable that the spread of Western ideas and mode of dress has had more prejudicial effect on the industry than the mere cheapness of European goods. Both in the fine, but more especially in the inferior cloths, the profits of the weaver seem to be reduced to a very low margin.

Cloths for Female Wear.—The manufacture of cloths for female wear is carried on on a very extensive scale, and has not declined to such an extent as the other, for though the industry has suffered considerably in the inferior kinds by the competition of English and French cheap printed cotton goods, European manufacturers have not hitherto produced anything which can at all compete with the finer cloths of Tanjore, Kuttálam and Kuranád, and other places. While the more gorgeous beauties of the textile manufactures of the north, such as those of Benares, Surat and Gujerat, have been fully recognised, it is a pity that the more sober, though none the less remarkable, artistic qualities of these fine cloths and their adaptability in many ways to decorative purposes have not been better appreciated. Artistically speaking, a decline is only noticeable in the cotton cloths, most of which have lost their characteristic beauty by the use of European dyed thread. The Madura cloths, however, are an exception.

Before turning to another branch of the industry, I must allude to signs which show that, however unsatisfactory may be the present condition, the native manufacture of cloths has nothing to hope for in the future. The great objection among Hindus to European long cloth, apart from its want of durability, is that the coloured and embroidered border of the native cloth is wanting. So, as I have mentioned before, on occasions of ceremony the native cloth is still used. But within the last year or two, cloths have been introduced into the market exactly similar in outward appearance to the common country bordered white cloth, and selling at two-thirds the price, or less. Even the finer cloths with silk embroidered borders, which, on account of the combination of silk and cotton being difficult to work by machinery at a cheap rate, have hitherto escaped the competition of cheap and vulgar imitations, are now being closely reproduced with borders of coloured cotton exactly similar in design. Similarly, the women's cloths have until recently only had to compete with glaring printed cottons, which, though injuring native trade in cloths for low caste wear, cannot have affected the industry in the finer manufacture. But lately European cloths woven, instead of printed, in imitation of some of the Kuttálam and Kuranád patterns, have been brought into the market, selling at prices with which the native manufacture could not possibly compete. Owing to agents of European firms who have been busy lately buying up native cloths as patterns, the weavers, in nearly every place I visited, looked upon my inquiries with great suspicion; and in some cases refused to allow me to see their looms. The effect of this new departure will, no doubt, tend to greatly hasten the decline in native weaving. In fact, it is obvious that in no very short time the whole of the native industry in the low caste or purely cotton cloths must give way, and only a remnant of the finer manufacture in which silk is partly or wholly used will be able to hold its own to any extent against the cheaper, though vastly inferior in every way, European goods.

WOOLLEN CARPETS.—With regard to woollen carpets, a great decline is also noticeable. Ayyampet, in the Tanjore district, was once an important centre for the manufacture of the woollen mats or small carpets for which the district is famous, and about ten years ago 107 families were employed in the industry. Now twelve families only are engaged in it. The patterns and colours of the carpets now made are not, as far as I could judge from the few examples available, so good as those to be found in old carpets, but this is probably the effect rather than the cause of the decline in prosperity, which is owing more to native preference for inferior European manufactures. These carpets do not ever appear to have found much favour in the European market. The patterns and colors, which are very bold and striking, do not suit the taste of the many who, in their painful anxiety to eschew anything vulgar or in bad taste, fall back on so-called "æsthetic" muddiness of color and monotony of pattern.

SILK CARPETS.—The Tanjore district was also once well known for silk carpets of remarkable beauty. This industry seems to have disappeared entirely. At all events, I was not able to discover any workmen engaged in it. At Wálajánagar, also an old seat of the industry, there are now only two workmen employed in it. Inferior designs and the use of aniline dyes are the only noticeable features in their productions. Probably the proximity of Vellore Jail, which must have once competed strongly with local manufacture, has been the chief cause of the commercial ruin of the Wálajá carpet trade. The restrictions recently placed on jail manufactures, in this case, came too late. In this jail the methods employed and the dyes used are purely native. But the patterns are too miscellaneous and not always good, and the arrangement of colors is altogether wanting in that essential of perfect harmony which is so conspicuous in unsophisticated native manufacture.

COTTON CARPETS.—Cotton carpets are made at Arcot, Wálajánagar (North Arcot district), Ayyampet (Tanjore district), and Ranjangudi (Trichinopoly district); but the industry is declining commercially and artistically. The patterns, in nearly all cases, are good and appropriate, but at Arcot and Wálajá aniline dyes have completely ruined the industry artistically. The Ayyampet carpets are good, and those of Ranjangudi are the best I have seen both in design and color. It is worth noticing that country cotton is always used in this manufacture.

SATIN.—Satin is manufactured at Ayyampet, Arcot, and Wálajánagar and at Ariyalur (Trichinopoly district). It is a beautiful industry which has hitherto attracted little notice. The weavers seem to be of northern origin, both from type of features and language, the latter a dialect strongly mixed with Gujerati. The material produced at the three first places is worn by Muhammadans for trousers, the principal trade being with Hyderabad. The arrangement of color is very bold and brilliant, but always in good taste. The Ariyalur satin is distinct in style and of remarkable beauty in color, as well as tasteful in the simple patterns woven generally in stripes across it. The *ravikkai* (Hindi, *choli*) worn by native ladies is made of it. Only two men are engaged in this industry, which, as far as I am aware, has never been noticed before. A kind similar in style, but inferior in color and execution, is produced in the town of Trichinopoly embroidered with patterns in silver lace.

REED MATS.—The only branch of weaving which has hitherto escaped European competition is the reed mat industry carried on chiefly at Shiyáli and Wandiwash. Those made at Shiyáli are the best, and are remarkable for their fine designs and good dyes. The Wandiwash mats are familiar to the Madras bazaar. The patterns are also very good, but the common use of aniline dyes has had disastrous effect.

COTTON-SPINNING. GOLD AND SILVER LACE.—There are two branches of industry closely connected with weaving, cotton-spinning and the manufacture of gold and silver lace, which have sunk from great importance to complete insignificance. Machine cotton is universally used in the manufacture of all but the coarsest kind of cloth and in cotton carpets; and, similarly, the gold and silver lace so much used in the manufacture of the finer cloths for male and female wear is almost entirely European, though there are a few native workmen to be found in Madura and Arcot.

COTTON PRINTING.—The industry of cotton printing is tolerably widely diffused throughout these districts, though it is in a sadly neglected condition. There are two distinct classes of work, the hand-painted or block-printed cloth, used either for personal wear or as bed-covers (palampores), and the hand-painted representations of mythological subjects for adorning the Hindu cars and temples, or for wall-hangings on festive occasions. The former are made at Kumbakonam, Nagore, Uraiyur (a suburb of Trichinopoly), Màna Madura, Permagudi, Pamban, Wálajánagar and Arcot; and the latter at Kálahasti, Salem, and Madura. At Kumbakonam and Nagore the cloths are all hand-painted. The best of them are exceedingly tasteful in design. The trade, which is entirely an export one chiefly with Singapore and Penang, has diminished enormously during the last twenty years, probably to the extent of 80 per cent. English printed cottons have supplanted the more costly native productions. The cloths and handkerchiefs of Permagudi, Mána Madura and Pámban are also hand-painted, but quite distinct in style from the last. Their fine lace-like patterns when drawn or painted by hand with the first preparation of wax, with great dexterity and facility, are exceedingly effective. But owing to the fineness of the patterns, they become almost indistinguishable after the cloth receives its deep red and blue dyes. However, there is one man working at Maná Madura whose designs are generally bolder and more suitable for the process. At Uraiyur some good block-printed palampores are produced by some half-dozen families; but the industry is declining, and the best workman has lately abandoned his trade and left the place. The cloths of Wálajánagar and Arcot are all block-printed. The industry here must have been once very extensive and important. In nearly every house where the work is carried on, I found old blocks of very elaborate and beautiful patterns, many of them of Persian origin, piled up in corners or in the roof covered with dust, or in some cases cut in pieces and utilized for the patterns now in use, which are very poor and altogether inferior to the old ones. In one case there were as many as 72 blocks to form the pattern of one palampore. I was able to secure some 200 of these fine old blocks. In this case also the trade is almost entirely an export one, and the decline which has affected the industry artistically in such a remarkable way seems to have taken place within the last twenty years. The cloths now produced when finished are often so blurred that the patterns are altogether lost.

The second kind of painted cloth, used in Hindu sacred ceremonies, is very interesting and remarkable. The best are produced at Kálahasti in North Arcot. The quaint illustrations of scenes from the Hindu epics, the Ramayanam and the Mahabarata, are exact reproductions of the style of Hindu temple sculptures with the same richness of architectural frame work and elaboration of jewellery. But apart from their interest, the wonderful effect of the arrangement of color gives them an artistic value of a high order. Similar ones, differing only in color but not drawn with the same dexterity, are produced at Salem. In both these places a few good patterns of palampore without figures are made, in which the sacred tree and swan or the lotus form the leading motif. Those of this latter kind made at Salem are excellent in design and superior in this respect to the Kálahasti ones. The Kálahasti palampores attracted some attention at the last Calcutta Exhibition, but those of Salem are, I believe, quite unknown.

Metal Work.—With regard to metal-work, that in brass and bronze is the most extensive industry. Commercially, it has declined little, except that kerosine lamps are fast taking the place of the old native oil ones. But the fine ornamental work for which the south is famous has become almost a lost art. Even the ornaments and vessels of the temple service, which have always, as in other countries, called forth the highest skill of the artificer, are now in the case of the former generally inferior in design and rudely executed, and of the latter entirely without ornamentation. The Hindu custom of melting down all old vessels every two or three years has nearly destroyed all vestige of the work of previous generations, so that one must look for examples of the fine old work not in temples nor in the houses of the rich, but among the waste metal of the brass bazaar doomed to the melting pot, or in the houses of the low caste poor, who generally look upon these with superstitious veneration and rarely consent to part with them. The little demand which still exists is chiefly confined to the lower castes, and the tendency being more towards cheap production than excellence of design or workmanship, it is not surprising that modern work is altogether inferior. The inlaid copper and silver ware of Tirupati is the only purely native work for which there is now any demand. It has degenerated completely in style and execution. The encrusted work of Tanjore is probably not entirely of native origin. It is strictly fancy work, not always in the best of taste, and as the demand for it is entirely European, consequently its prosperity does not appear to have been affected at all. A few brass-workers there are who have found exercise for their skill in the making of locks and safes ingeniously contrived. One man is at Dindigul who has acquired considerable reputation, another at Máyavaram, Tanjore district, and a third at Ramnad.

The Madras Museum possesses some magnificent specimens of arms and armour, which show to what a high state of perfection the ironsmiths of the south once brought their art. Now three workmen at Sivaganga, in the Madura district, are the sole descendants who retain somewhat of the skill of their forefathers, or who find any employment for it. And just as the skilled workmen in bronze, brass and iron is now reduced to the level of common workmen, so the wood-carver is obliged to maintain himself in great part by doing the work of an ordinary carpenter, for it is no longer the fashion for the wealthy merchant to adorn the interior of his house with rich carvings, and the architectural decoration of the Rajah and the Zemindar never aspires higher than an imitation of that bold and often grotesque travesty of the Italian style which characterizes Anglo-Indian buildings.

The goldsmith is still to be found at work in every town and village of importance, and his art has probably suffered least of all; for the women, more conservative, have not given up their traditional ornaments or exchanged them for European jewellery. On the other hand where, as at Trichinopoly, a European demand for his work has sprung up, he has become, artistically speaking, completely ruined, and has not even attained to that high mechanical finish and polish which is the only excellence in the type of jewellery he strives to imitate.

Pottery of an ornamental character is made only at Kulgherry in North Arcot. Unfortunately the two men who produce it seem to have been made the subjects of the crude experiments of every European who has come in contact with them; and their pottery is only remarkable for its inferiority to old Arcot ware and for its strange perversions of European forms.

Causes of Decline.—I have already noticed to some extent the causes of the decline which is so clearly marked in nearly every branch of native art. The production of articles of necessity, such as the native cloths, has suffered most by direct European competition. Industries in articles of luxury, such as wood-carving, carpet-weaving and ornamental metal work, have been affected to some extent by the decline of many old native Zemindaries and States, but more from the spread of European education and ideas, which lead many of the better class of natives to throw aside their national dress and decorate their houses in a pseudo-European style with glaring Brussels carpets and ill-designed furniture, and either to look upon all native art as beneath their notice, or with condescending benevolence to supply the workmen with designs culled from the pattern books and catalogues of European manufacturers. In this way the native industries have suffered as much by loss of prestige as by European competition or from any other cause.

In the north of India the beauty of its industries has always commanded a certain amount of admiration with a few, but in this presidency it is only of late years that the idea has generally gained ground that there is any native art, much less that any good is to be found in what little there may be. The majority of Europeans know nothing of it, except those few who benefit by its commercial ruin; and the means of obtaining any information with regard to it are very scanty. It is a remarkable sign of the indifference with which it has hitherto been treated, that while South Kensington, the finest Art Museum in the world, has thought Indian and Oriental art worthy of the largest proportion of its space, neither in Madras, Bombay, or Calcutta has there been, until quite recently, even a small collection to represent to any extent the resources of the country in its arts and industries. The collection at the School of Arts, to which one would naturally look for an index to the industries of the presidency, consists principally of a mediocre collection of casts from the antique and details of Italian and gothic ornament.

The specimens of native industry which I have purchased from the grant sanctioned for that purpose will make a beginning in the right direction; but I would strongly recommend that the survey which I have commenced may be continued; that provision be made for an annual grant for the additions to the collection which are needed; and that a museum be formed in connection with the school, representive of all that is best in native art, and especially in that of Southern India. With regard to the question of its connection with the School of Arts, it is to be considered that there is ample space for a very considerable collection and a staff available, and that a large collection of the best examples of native design in every branch is absolutely essential for the future success of the school. Such a collection must, as is the case at the National Art Training School at South Kensington, be the most important teaching agency. To place this collection in any other building would practically render it of very little value to the students and add seriously to my work of superintendence, which is already very heavy. That a museum of this kind would do much good to native industry can hardly be doubted. Indeed, I am convinced that, properly directed, its influence would be far more beneficial than that exercised by International Exhibitions, which, though of great value in many ways, tend to lower the artistic standard by creating an indiscriminating demand. It would give a prestige to native art in the eyes of the natives themselves, and create an interest with regard to it by affording information in every branch of it, which now it is almost impossible for a European to obtain; it would be the means of preserving those examples of a period when art attained a much higher standard than is generally to be found at the present time, and which are daily being destroyed and becoming more difficult to obtain; it would thus create and maintain among the artizans themselves a higher standard of design and workmanship; and it would afford the means of enlightening that class of artistically ignorant Anglo-Indians, dilettanti, and manufacturers, who persist in attempting to teach where they have much to learn, and who, if they possessed but a little of the artistic instinct of the native artizan, would shudder at the mischief which they work.

Madura Red Dye.—Madura is famous for a fine dye of a deep red color. The dye is also prepared in many other places, but Madura has acquired a reputation for finer color and greater permanence, which is attributed by the weavers to the peculiar qualities of the water of the Vaigai. The process is as follows:—The ashes of a plant called by the natives Umiri (*Salicornia Indica*), which grows wild on sandy beds near the sea coast round about Ramnad, Rámesvaram and Tuticorin, are steeped in water for ten days, when the water is poured off and the white cloth is dipped in the sediment and left for three or four days. When it is taken out and washed the cloth has a yellowish grey color. Next it is dipped in a liquid prepared out of Tinbura root (a small shrub growing on the banks of the Vaigai), Kaya (*Memecylon Tinctorum*) leaf and gingelly-oil prepared in the following manner: The root of the Tinbura is pounded and boiled in water for six or eight hours until the water is a deep red. To this are added leaves of the Kaya leaf well dried and reduced to powder, and gingelly oil in these proportions: Tinbura decoction 16 parts, Kaya leaf 2 parts, and gingelly-oil 2 parts. The cloth is left in this liquid for two days, when it is taken to the bed of the Vaigai and left in very shallow running water for a day, after which it is dried in the sun. It is re-dipped in the dye and again washed in this way for 10 or 11 days, when the operation is complete. The whole process is very tedious, sometimes lasting over a month. During the rainy season all operations are suspended.

Painted Cloths.—The hand-painted cloths of Kumbakonam, Nagore and other places are prepared as follows:—The white cloth is first steeped in a preparation of gallnuts boiled in milk for five or six hours, and allowed to remain for two days. Then it is taken out and dried in the hot sun on the sandy bed of the river or in the prakara court of the temple. The patterns are then drawn on the cloth by a rude brush with melted wax. The cloth is steeped in the dye for a sufficient time, when the wax is removed by hot water, the patterns appearing white on a blue or red ground, as the case may be. If only one color is desired, the cloth is complete, otherwise all but the portions of the pattern in which a second color is tô be introduced is coated with wax. When the cloth is again dyed, and the wax being removed, the process is finished.

Brass and Zinc Work of Kurumbalur.—The brass portion of the vessel is first modelled in wax and cast in the ordinary way by surrounding the model with a mixture of clay and sand, melting out the wax and pouring in the molten metal. This process forms a brass vessel apparently roughly pierced in simple designs, which is again surrounded by a mould and the molten zinc is run into the perforations. The vessel is completed by filing, chasing and burnishing. Each vessel generally requires to be cast in separate portions, which are afterwards soldered together. Only one family is engaged in this work.

THE ARTS AND MANUFACTURES OF THE DISTRICTS OF KISTNA, GODAVARI, VIZAGAPATAM, AND GANJAM.

Unknown Industries.—It is necessary to make a reservation with regard to this description. I very much doubt whether it would be possible to discover in any country an industry which is new in the sense that the entire principle or process of it is altogether unknown. I include under this head one or two arts which have not been represented in the Madras collections in the London Exhibition of 1886 or in Calcutta in 1883–84, and concerning which, as far as I am aware, nothing has been recorded in any books of reference on the subject as to their existence in this Presidency.

Lacquer Work.—The most important is a kind of lacquer work on wood used by a workman in the service of the Zemindar of Mandasa in Ganjam. A similar method of decoration has been practised in the Punjab, and was formerly used in Saracenic architectural decoration of interiors in various countries. In Cairo and Damascus especially there are magnificent examples of it. It is identical with old Italian "Gesso" work. The style of design has, however, much of the character of Madras work about it, so it is not merely the discovery of a Punjabee workman in Madras. This man originally came from Kondapilly in Kistna. The only Madras work

which can be compared with it is the lacquer work of Kurnool, which is perhaps the finest Indian "Gesso" work now practised anywhere. I have not been able to obtain a description of the Kurnool process, but I have no doubt that it is similar to that of Mandasa. In style there is no similarity between the two, the Mandasa work being much bolder and suitable for decoration on a large scale, while Kurnool lacquer could only be employed satisfactorily on boxes, trays or articles of furniture. The ornament is raised in very bold relief, so that it at first sight has the appearance of wood-carving. The colours are painted on a ground-work of silver foil, which gives them a very brilliant effect. Some parts are gilded, and small pieces of bangle glass with silver foil at the back are used in the ornamental detail. Only one man can do this work. The process is as follows :—

A strong glue is first prepared from deer skin by soaking the skin in water for three days, and afterwards boiling and straining it. This glue is ground with an equal part of white dammer, and the powder is mixed with water to the consistency required. Pieces of old chatties are then ground up into a fine powder, a process which is said to take several days. Three parts of this powder mixed with one of aloes are then added to the semi-liquid preparation of glue and dammer. The wood to be ornamented being first carefully planed and smoothed by rubbing pipe clay mixed with powdered tamarind seed over it, this composition is repeatedly applied with a brush until the ornament produced is raised to height desired. This being accomplished, a coat of white oil-paint is laid over the whole. The ground-work of the ornament is then covered with silver foil and the coloring proceeded with in the ordinary way with pigment ground in wood oil. Gilding and small pieces of bangle glass inserted as part of the ornament are used to heighten the effect. When the whole work is properly dried in the sun the ornament will stand washing and considerable rough usage.

The other industries are not of much significance. At Peddápuram in Godávari one weaver prepares cloths of a fine silk gauze, or muslin brocaded at the ends. They are worn by Zemindars or wealthy people as a kind of ceremonial costume, but are so fine that they are not suitable for ordinary wear. Similar stuff was formerly made at Trichinopoly, but I believe the manufacture has died out there. At Kondapilly one man stamps leather in ornamental patterns for books or boxes and desks. He has, however, only one stamp—an heir-loom of his family—with two designs on it. One design is very simple and the other elaborate, but more suitable for a box-lid than for a book-cover. At Kuppookonda in Kistna one man and his family turn very neatly in stone, minute boxes for holding native ladies' eye-paint and *kunkum*.

Cotton Manufactures.—Cotton-weaving may be divided into two chief classes—colored cloths and white cloths. Inferior colored cloths of European dyed twist are on special order made by weavers of white cloths, but the main divisions of the industry are represented by these two classes. In these districts there are two distinct varieties of coloured cloths ; the first is made at Chirala and Vetapálem and other places in the Kistna District. The speciality of these places is a well-woven and finely-dyed cloth worn as a dhoti by Mahomedans throughout the Northern Circars and exported largely to Hyderabad. The body of the cloth is woven with thread of the fine red dye prepared from the plant "Seruver" (*Hedyotis umbellata*, Lam.) ; a plain white band runs on each side throughout the length, and across the ends broad bands of blue (indigo) are woven. For European use it would be very effective as a curtain. The handkerchiefs for Mahomedans made at the same place are of the usual check pattern and are not remarkable. At Pedana near Masulipatam there is a considerable industry in dhoties and colored cloths also sent to Hyderabad, but they are of an inferior description and mostly woven with imported dyed twist.

The second variety of coloured cloth is made at Rájam in the Vizagapatam District. They are cloths for female wear, but are worn by males also among the hill tribes. The body of the cloth is plain, but the edges and ends are embroidered with wider and more elaborate bands than is usually the case. Special patterns are introduced in the embroidery to suit the taste of the hill-people, by whom they are worn as part of their war or festival costume. Imported dyed twist is generally used, indigo being the only dye of native production. The most effective variety of cloth has a plain dark blue ground, embroidered at the edges and ends with patterns in yellow and white or with silver lace. As regards material and manufacture they are generally superior in quality, and the contrast of the richly worked borders and ends with the plain ground is effective.

These two classes of weavers are common to nearly all districts. The third is a special class only existing in a few places in the Presidency. The cloths are made either of a fine country-spun thread known as "silk-weaver's cotton" or of imported thread equally fine. The former is spun by a class of people living in some localities in the Godávari, Vizagapatam, and Ganjam districts. They do not belong to the silk-weaver's caste, so the name is probably derived from the fineness of the cotton. The thread is not generally made finer than fine imported thread, but it speaks much of its durability that people are willing to give as much as Rs. 15 for a plain cloth (for ordinary wear) woven with it, when they can buy a similar cloth (also hand-woven) of machine-spun thread for about half the price. This industry is specially noteworthy as showing the direction in which the native handicraftsmen may find a field in which they have nothing to fear from European manufactures. Chicacole muslin is of this description of manufacture, only that simple flowers or stripes of colored cotton are interwoven with the cloth. Besides these three classes, cotton cloth of various description for European use is produced, but the industry is small. At Pedana, near Masulipatam, table-cloths and cotton cloth for European wear are made at a few looms. Chicacole muslin is sometimes used for European ladies' dresses, and at one or two places the weavers supply the small local demand for cotton cloth, bed-ticking, &c. Cotton carpets are made at one or two places in these districts, but they are not different to those made in other parts of the Presidency.

Cotton-Spinning.—I have already referred to two descriptions of country-spun thread. The first is the very coarse thread spun by the females of an agriculturalist's family in every cotton-producing district. "Silk-weaver's cotton" is spun by a particular class only in the villages near Uppada in the Godávari district, Anakápalle and Pandur in Vizagapatam, and Chicacole in Ganjam. Formerly, it is said that the demand for it was large, so that it formed a separate industry in which whole families were engaged. Now only females are occupied in spinning,

while the men have become weavers. Chiefly in various villages in the north-east corner of the Godávari district another description of fine thread is spun known as "Palkee-bearer's cotton." It is not so much in demand as "silk-weaver's cotton," and the quality is inferior.

The ordinary native method of spinning cotton is so well known that it is unnecessary to describe it. For "silk-weaver's cotton" there are some peculiarities in the process. By the ordinary method a rough mill or gin is used to separate the fibres or wood from the seeds, but for this thread the operation is performed with a small iron rolling-pin entirely by hand. The cotton is cleaned in the ordinary way with a bow. The "carding," or dis-entanglement of the fibres, is accomplished with the aid of the upper jaw of a fresh-water shark called "Wallagu." For the same operation in Europe a kind of wire brush is used. The spinning wheel and the spinning process are the same as used for ordinary country-spun thread, except that the wheel is lighter in construction.

SILK-WEAVING.—A special description of silk fabric made at Peddápuram has been before noticed. Fine silk-cloths and cholis are also made at Jaggayapet in Kistna and Berhampore in Ganjam. They are either plain cloths with the usual borders, or they sometimes have simple flowered or check patterns. The color most used is the crimson produced from lac, and the cloths of Berhampore, unless specially ordered, are all of this color. Deep yellow, green, grey, and several tints produced by varying the color of the warp and weft, can also be obtained at Jaggayapet, seldom at Berhampore. Indigo-blue and white cloths are made to order.

WOOLLEN CARPETS.—Carpets are made only at Ellore and Masulipatam. The native demand is confined to small mats or rugs, but large carpets are made for European firms. The patterns are bold in character, of a floral type generally, on a white ground with a colored border, but sometimes the centre ground is of one color, either red or dark grey, entirely plain. The dyes in use are all native and prepared by the weavers themselves. There is no distinction between the manufacture of the two places, except that the best and largest carpets are made at Ellore.

In these carpets all the dyes are native, and I did not discover any in which aniline dyes were used, but probably they may be found in some of the inferior small rugs, as is the case at Ayyampet in Tanjore. The dyes most used are for crimson or red—stick lac and sappan wood (*Cæsalpinia sappan*); yellow, "*allikaya*" and turmeric; orange or reddish yellow, the flowers of the Moduga tree (*Butea frondosa*) combined with turmeric; dark and pale blue indigo. Other colors are produced by the combination of the above.

REED MATS AND ORNAMENTAL BASKET-WORK.—Plain reed mats are made at Ayyanvole in the Kistna District and in the Goomsur maliahs of Ganjam and some of the hill tracts of Vizagapatam. Ornamental patterns will be made to order at Ayyanvole. The mats and basket-work of Parlákimedi are distinct in style. The only native dye in use is black, and when the patterns are worked with this, the contrast with the silver grey of the undyed reed is very pleasing. Unfortunately, nearly all the work is carried out with aniline dyes, and it is difficult to get any patterns without them. Fancy baskets, flower stands, cheroot cases, &c., are all made of common European shapes.

PALAMPORES.—The printed cotton cloths of Masulipatam consist of canopies, screen cloths, prayer cloths, men's handkerchiefs, turbans, cloth for Mahomedan jackets, and women's cloths. Canopies and screens and other cloths entirely hand-painted, generally with patterns of the "tree of life" type or mythological subjects, are only made by three families on special order. Every description of cloth, except the cheaper cloths with patterns only in red outlined with black on a white ground, is partially hand-painted. It would be useless to attempt to describe all the different varieties, but even the commonest and cheapest cloths are generally excellent in design, and the brilliancy and happy arrangement of color are especially remarkable. There are three distinct classes of palampores: first those on a white ground entirely block-printed in red with a black outline; second, cloths printed in two or more colors (which may be red, light blue, dark blue, green, yellow, and a dark brown or black), either with a white or colored ground—these are partially hand-painted; third, cloths in two or more colors entirely hand-painted.

The white cloth is first prepared by steeping it in a mixture of buffalo dung. It is then spread on the ground and water is thrown over it, but it should not be thoroughly washed. A solution of powdered gall-nuts (myrabolans) is next prepared, and the cloth, when dry, is steeped in this for 1 or 2 days. When it is again dried it is ready for the printing process. For block-printed palampores.—If the pattern has a black outline a mixture is prepared from iron filings, jaggery and vinegar (sour toddy). This is placed in a shallow trough with a piece of flannel or thick cloth at the bottom. The face of the block is dipped in the trough and the impression on the cloth gives the outline of the pattern. The red color is next applied in this way:—A second block cut for the details of the pattern intended to appear red is dipped in another trough, in which there is a solution of alum, and another impression is made. The cloth is now boiled in the dye prepared from Seruver (*Hedyotis umbellata*) and the leaves of *Memecylon tinctorium* called "jagi aku." As the dye only adheres firmly to the alum mordant, the cloth comes out with patterns in red according to the design of the second block. The white ground of the pattern is, however, stained with the red dye, and the cloth must be well washed with chunam soap and dhoby's earth (*soudu mannu*) to remove the superfluous color. Many of the cheaper palampores are left in this state, but if a second color is required all of the details of the pattern which are required to remain red must be covered with melted wax applied with an instrument somewhat resembling a draughtsman's inking pen, with the addition of a large pouch containing the wax through which the handle of the instrument passes. When this operation is complete the cloth must be dipped in dye of the second required color. The waxed portions of the cloth, of course, are not affected by the dye. The wax is afterwards removed by boiling the cloth. For every additional color required, the waxing process must be repeated.

At Pallacollu most of the printers make men's turbans and handkerchiefs and women's cloths of an ordinary kind. But there is one excellent workman whose hand-painted canopies and screens are equal to any made elsewhere. The best have mythological subjects similar to those of Kálahasti in North Arcot (which are better

known), but in drawing, intelligent composition, and in other respects they are much superior. He also has some patterns of the "tree of life," but these are inferior in design to the similar ones of Masulipatam. Sometimes the effect is heightened with gold leaf fastened on the cloth with a kind of size and beaten in until it is firmly fixed.

EMBROIDERY.—Very fine embroidery work is done by one man in the service of the Zemindar of Mandasa. He embroiders silk on cloth for canopies or screens in fine bold patterns. His work is also superior in execution to any other Madras embroidery. In the Ganjam District some Uriya tailors embroider a kind of appliqué work and patch-work in a quaint, though somewhat barbaric, style. The effect is spoilt by the use of inferior European materials.

GOLD AND SILVER WORK.—The usual ornaments worn by females in nearly every part of the Presidency are of the same style of design as elsewhere, but they are exceptionally well made throughout the Vizagapatam District. Some parts of the district are remarkable for special work. In the Narsaraopet and Vinukonda taluks of Kistna, the silver belts worn by males are noteworthy. The belt itself is made of silver wire, plaited together, over which highly ornamented bosses and flat plain bands are fastened alternately throughout the length. This pattern is not confined to any one district; but in these taluks of Kistna and in the adjacent district of Nellore, the ornament is much more elaborate and better designed than elsewhere. A gold-smith at Narsaraopet has a reputation for good work of this kind. In the Vizagapatam Diztrict the silver ornaments for females, worn by some of the lower castes are very remarkable for tasteful design and often for fine workmanship. I found the best in the Anakápalle taluk. They are quite distinct in style from ordinary Hindu ornaments, but have some resemblance to the brass jewellery of Uriyas in Ganjam.

JEWELLERS.—There are many jewellers in various places, and especially in the Vizagapatam District, who make ornaments similar in design to those of the ordinary gold-smith.

SILVER-SMITH'S WORK.—Silver and gold vessels, such as rose-water sprinklers, betel trays and boxes, chembus, &c., are made in several places.

DAMASCENING.—A good many gold-smiths in Vizagapatam and Ganjam can damascene on iron and steel. There is now no demand for such work, and none of them have done any recently or within the last four or five years.

BRASS WORK.—Plain beaten work in chembus and common household vessels, for which sheet brass is used, occupies the greater number of brass-smiths. Cast work is done by the more skilful workmen who make bells for bullocks, superior chembus and drinking vessels, small images of Hindu deities, and occasionally lamps in bell-metal, besides ordinary beaten work. Images, lamps, and architectural ornaments of large size are generally made by them of sheet metal. Skilful brass-smiths make silver and gold vessels, such as those described under silver-smith's work. The manufacture of personal ornaments is a special class of brass work found in the Vizagapatam and Ganjam Districts. The best are worn by the lower classes of Uriyas in the north of Ganjam, and some of them are very excellent in design. In and near Parlákimedi some good patterns are also made. The brass-smith's work is either hammered or cast. He has no knowledge of the method of spinning. The composition of ordinary bell-metal is 8 or 10 parts of copper to 6 of tin. The old wax-process described by Cellini and used by all mediæval metal-workers in their moulded vessels or figures, known to them as "cire perdue," is the only method of casting employed by native workmen. In their ornamental work, however, they seldom avail themselves of the artistic capabilities of the process which old European masters developed so highly. So it is of some interest to find the tasteful patterns of the brass ornaments worn by the lower caste Uriyas in Ganjam made in this way. One curious apparatus is a hollow tube of bamboo, into the end of which a movable brass perforated plate is fitted. The wax is made sufficiently soft by heat and pressed through the perforations at the end of the tube by another piece of wood exactly fitting it. The wax comes out in long threads, resembling vermicelli, which are used to form various patterns for the brass ornaments. The fineness of the thread may be regulated by altering the gauge of the brass plate at the end of the tube. Other patterns are obtained by means of brass dies, similar to those used by gold-smiths, and when the wax model is complete the process is continued in the ordinary way by coating it thickly with mud, melting out the wax and pouring in the molten metal.

IRON WORK.—There are a few blacksmiths in the Vizagapatam District who formerly made swords, spears and other weapons. As there is now no demand for such work they confine themselves to rough knives for bandymen, razors, writing styles, and miscellaneous articles of common cutlery.

IVORY AND HORN WORK.—At Vizagapatam the ivory workers make all kinds of fancy boxes, desks, paper-knives, combs, and small articles of furniture. These are either wholly of ivory, or of sandal-wood, rose-wood or ebony inlaid or overlaid with ivory fretwork. Various patterns are etched on the ivory in black. They also make similar articles in horn, tortoise shell, and porcupine quills. (See Illustration). Some Zemindars retain ivory carvers in their employ to make fancy boxes of inlaid work, to carve combs, images, or ornamental articles, or to make and inlay musical instruments. In other places there is no regular demand for ivory work, but some carpenters or muchies, rarely gold-smiths, will work in ivory or horn on order. Every ivory worker employs a black lacquer to heighten the effect of his inlaid work, but the country workmen, instead of simply incising the ivory in lines as in "Vizagapatam work," will cut out the ground of the pattern deeply and fill in the hollows with lacquer. When not carried to excess this process is more effective though more laborious than the simple engraving. Ornamental combs of horn are worn by Uriyas in the Ganjam District. The ornament is produced by piercing the top part of the comb and by engraving patterns on it, the incisions being filled with a composition of silver and mercury. Horn boxes are also ornamented by the latter process.

WOOD-CARVING.—Of wood-carving in these districts there is nothing to speak of. In some parts of Kistna there are a few fairly-skilled carvers who work in a mixed Mahomedan and Hindu style. In the other districts there is hardly any wood-carving to be found.

Carved Fruit Shells.—Two gold-smiths in the service of the Zemindar of Mandasa carve cocoanut and bael fruit shells very finely. They are generally mounted in silver and converted into snuff boxes. Several gold-smiths in the northern parts of Ganjam professed to be able to do similar work, but only one, at Antagudda, could produce any specimen of it. I have seen it stated that these shells are carved by the hill tribes, but this is not the case.

Stone Work.—There are many stone-cutters all over the districts who, besides dressing stones for building purposes, prepare mill-stones, stone pestles, and various vessels. When required, stone figures are carved at Kooppookonda in Kistna, where small stone boxes are also very neatly made, Bobbili and Peddápuram in Vizagapatam, Chicacole, Mandasa and Muttoora in Ganjam. The stone-cutters at Mandasa and Muttoora can do fine architectural carving, but the demand for ornamental stone work is very limited.

Paper Manufacture.—Paper of a coarse kind is made at Kondavid in Kistna by about ten families. The process is essentially the same as in hand-made paper of European manufacture. Improved raw materials and knowledge of their properties are most necessary for the production of a better class of paper.

Dyes (Cotton).—As a rule the cotton weaver buys European dyed twist in the bazaar. Only two native dyes are now used by the cotton weavers—red and blue. The red produced from the root of the plant *Hedyotis umbellata*, called "Seruver," is used at Vetapalem and a few other places in the Kistna District. The wild plant produces the best dye. The process is exceedingly tedious and the root expensive, and on this account "chiranjee" (*Morinda* bark taken from the roots of the tree) is often used to mix with "Seruver." It gives an inferior color and is less permanent. The "Seruver" itself, when properly prepared, is a fine color and very enduring. "Seruver" is also the red in Masulipatam and many other palampores. *Morinda* bark is used by the hill-people of the Goomsur maliahs of Ganjam for a red dye and is there called "achu." Indigo is the common blue dye universally used in the plains, but *Wrightia tinctoria* is said to be used in the north of the Vizagapatam hill tracts for the same purpose. It is called "chittankudu." The yellow of Masulipatam palampores is prepared from the leaf galls of *Terminalia chebula*. It is called "allikaya" or "aldikaya."

Carpet Weaving.—The fact that the best description of English carpet is still made on identical principles is an acknowledgment of the efficiency of the process borrowed originally from Persia. The ordinary Ellore and Masulipatam carpets of small size prepared for the country bazaars are often of inferior stuff and badly made; but carpets of the superior class prepared only on special order are equal in point of finish and material, and infinitely superior artistically to the imitations of them made in the various jails of the Presidency. There may be a falling off in treatment of color, and in the execution of the details of patterns compared with the *finesse* in the working of Indian carpets made 20 or 30 years ago, but the blame for this can hardly be attributed to the weavers themselves, and the mischief is not so serious but that a judicious encouragement of the weavers would soon remedy it. The best patterns in use are not inferior to those of old South Indian carpets which are held up to the disparagement of modern productions. The outcry against the deterioration of Indian carpets, as far as Madras carpets are concerned, is, in my opinion, not altogether called for. Aniline dyes are very rarely used as they are at Warangal and other places in Hyderabad, and I have seen carpets from the native looms at the three seats of the industry—Ellore, Masulipatam and Ayyampet (Tanjore)—which are in no respect inferior to old specimens in the hands of connoisseurs in London or in native houses and palaces. I cannot but think that jail manufactures, which are generally altogether inferior in color and design, are passed off as coming from the caste-weaver's looms. The good work to which I refer is not at all easy to obtain, and the unbusiness-like habits of ordinary native workmen doubtless re-act against their trade. After a personal observation of the looms, I think Madras carpet manufactures have not been adequately represented in the recent collections for exhibition, still less so at Calcutta in 1883-84. Without a good typical collection of all the various industries for reference it will be almost impossible for any committee in Madras to insure that every manufacture does itself justice.

LIST OF ILLUSTRATIONS.

A DYER AT WORK.

PRINTED COTTON. WOVEN SILK. WOVEN SILK SHAWL.

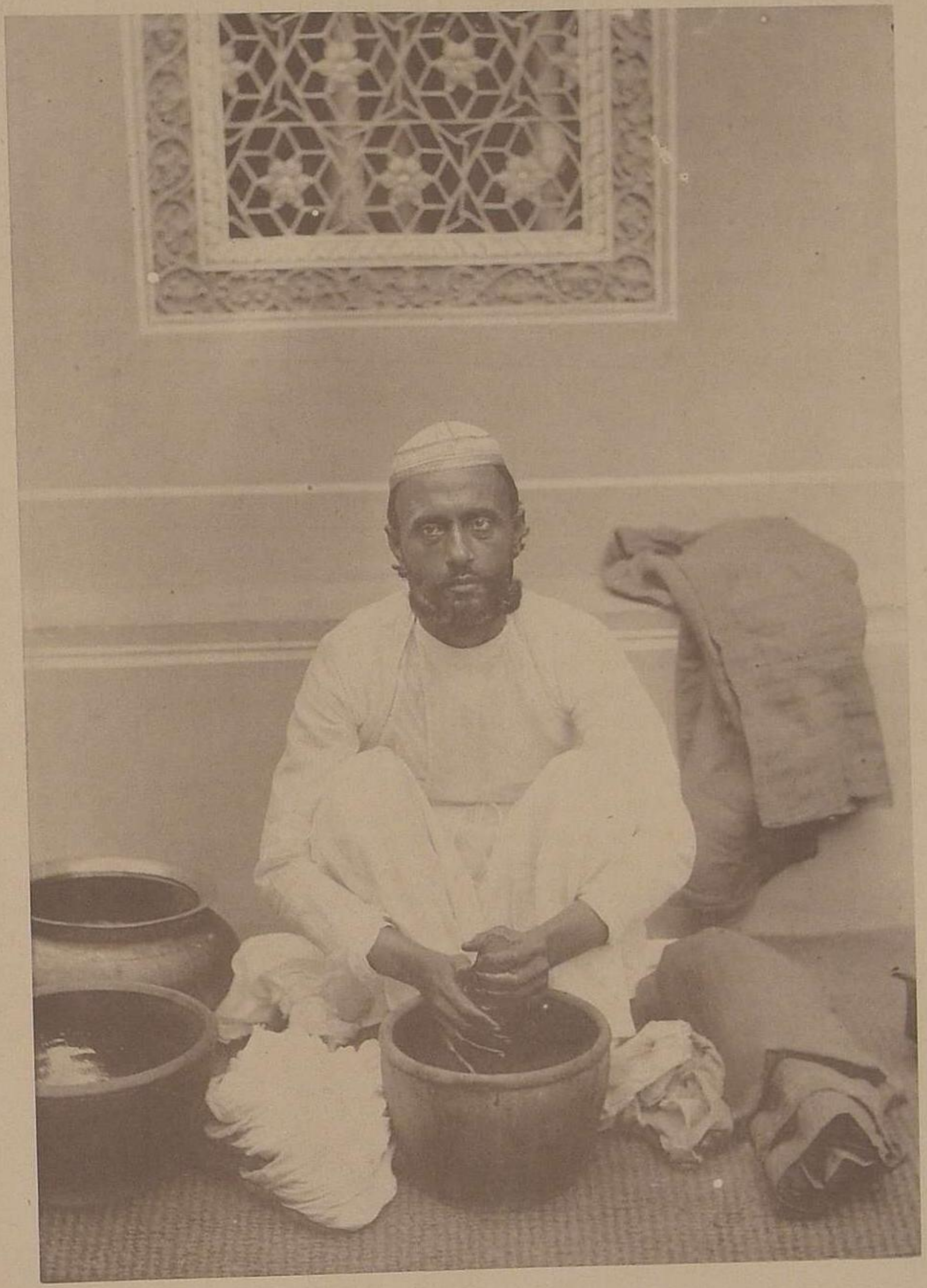
JEWELLERY. WATER VESSELS.

BACK OF A CARVED SANDALWOOD CABINET. CARVED DOOR FRAME.

WORK BASKET AND GLOVE BOX IN PORCUPINE QUILLS.

IVORY WORK BASKET AND GLOVE BOX.

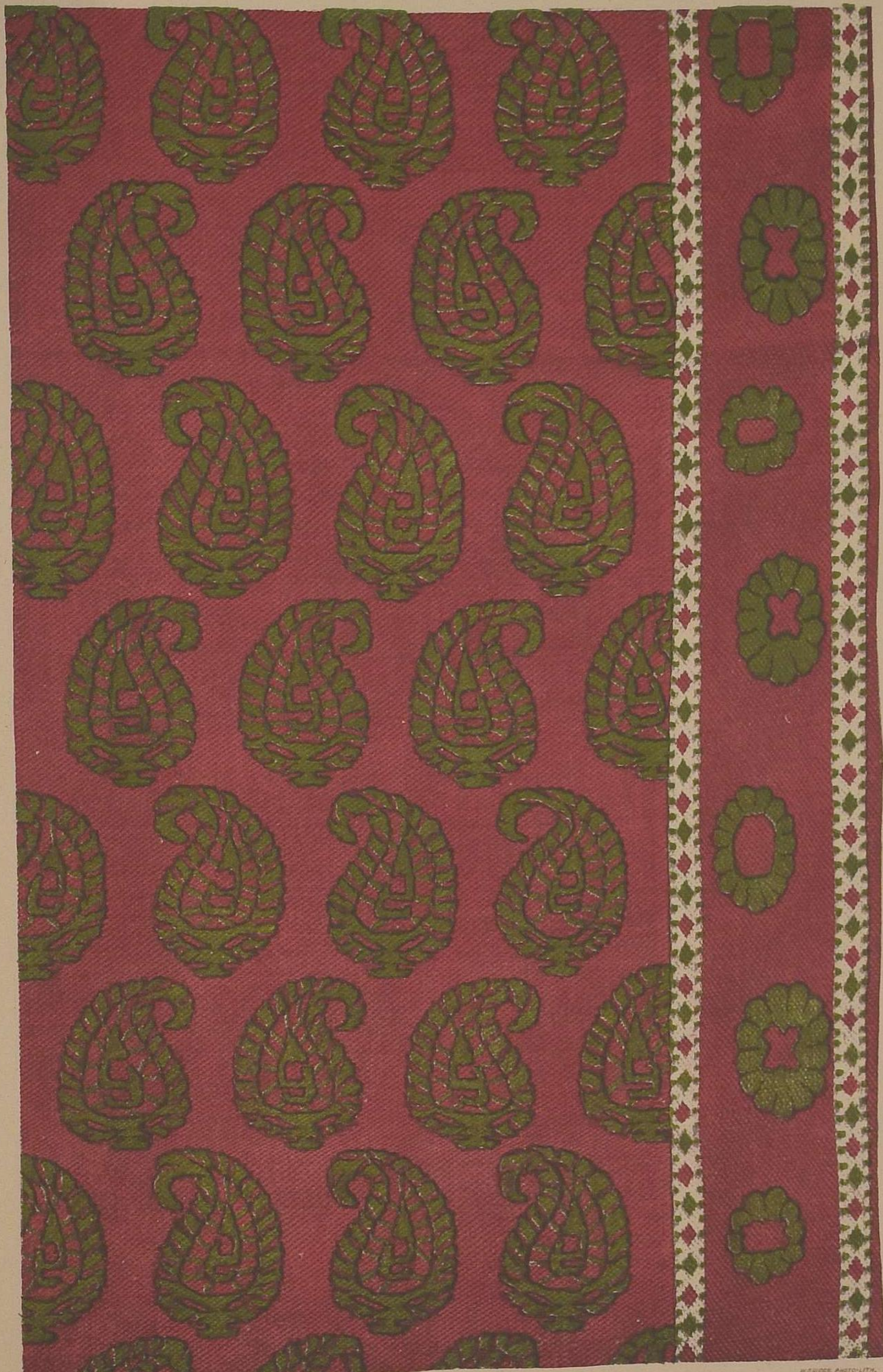
FOUR MATS.



A DYER AT WORK.

W. GRIGGS PHOTO-LITH.

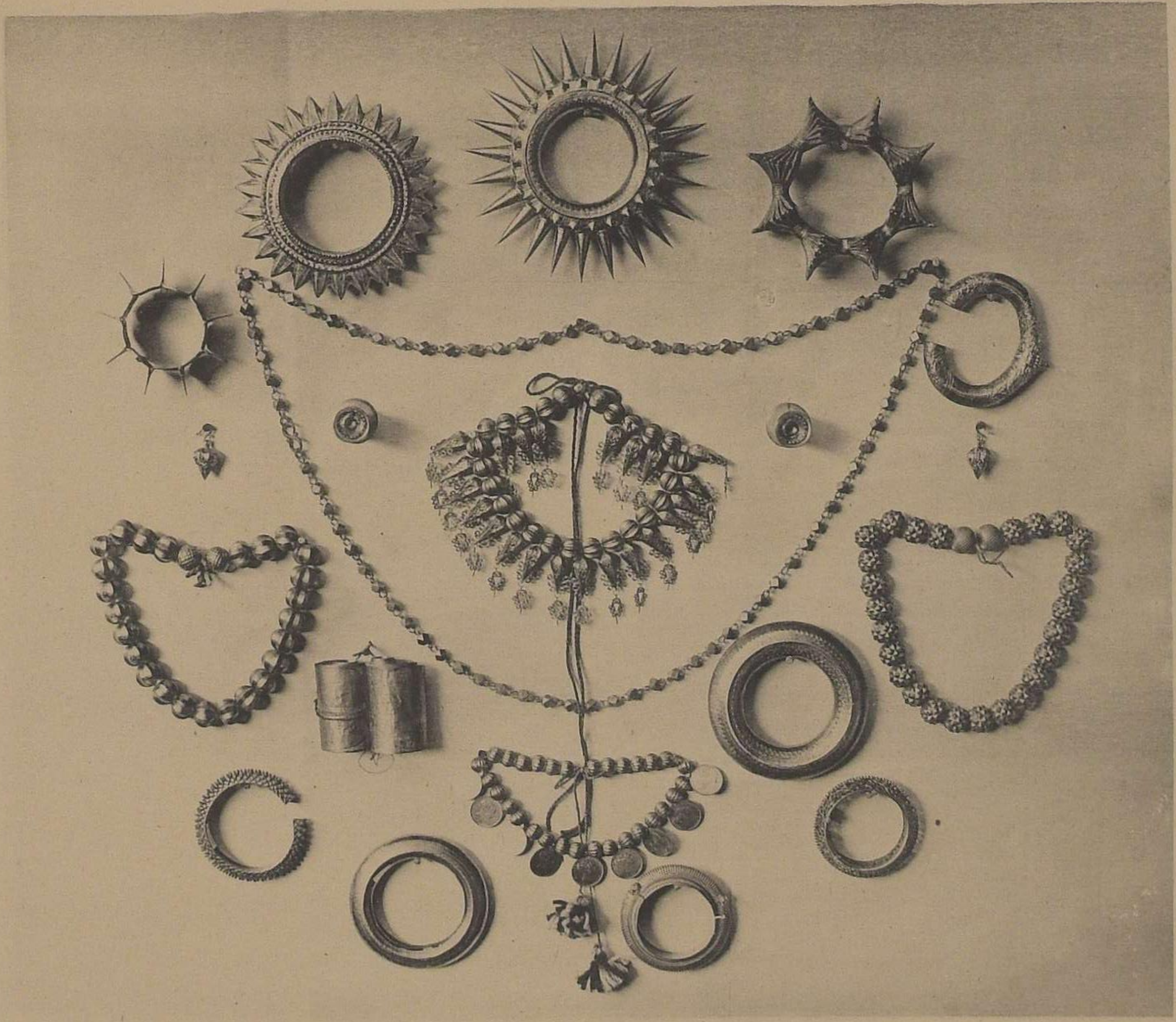
WOVEN SILK. MADRAS.



W. GRIGGS, PHOTO-LITH.

WOVEN SILK SHAWL. BANGALORE.

PRINTED COTTON. MADRAS.



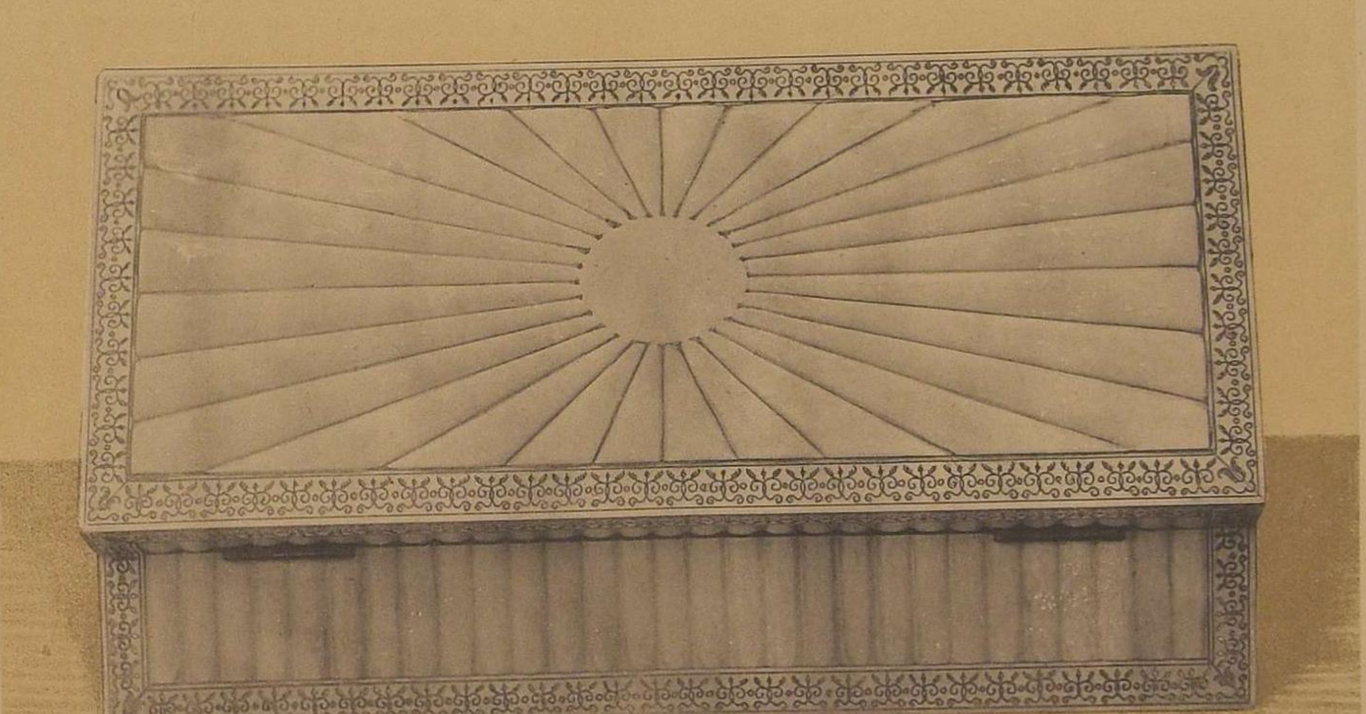
JEWELLERY. MADRAS.

W. GRIGGS, COLLOTYPE.

WATER VESSELS. TANJORE.

WORK BASKET AND GLOVE BOX.

PORCUPINE QUILLS FITTED IN HORN, AND IVORY. VIZIANAGRAM.



W. GRIGGS, COLLOTYPE.

IVORY AND SANDALWOOD WORK BASKET AND GLOVE BOX. VIZAGAPATAM.

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BACK OF A CARVED SANDALWOOD CABINET. MYSORE.

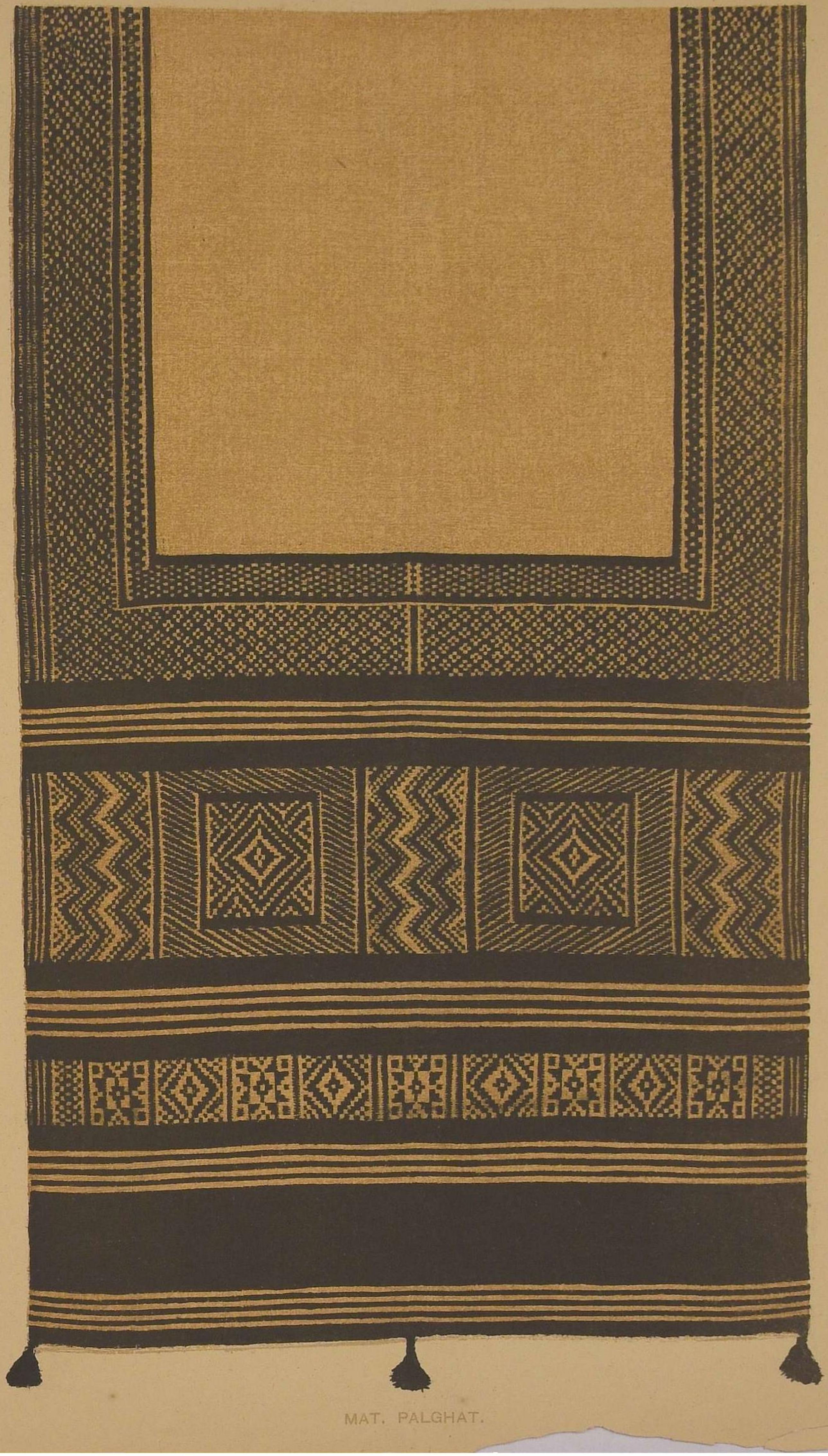
CARVED DOOR FRAME. MADRAS.

MAT. PALGHAT.

MAT. PALGHAT.

E. 13597

MAT. JESSORE.



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